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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/027,782

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Peter R.C. Gascoyne

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12/03/2004

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EXAMINER

SHIBUYA, MARK LANCE

ART UNIT

PAPER NUMBER

1639

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/027,782

Applicant(s)

GASCOYNE ET AL.

Examiner

Mark L. Shibuya

Art Unit

1639

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-60 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Claims 1-60 are pending.
2. Upon further consideration, the instant Requirement for Election/Restriction replaces the previous Requirement for Election/Restriction, mailed 6/21/04, which is withdrawn.

### ***Response to Traverse***

3. Applicant's election with traverse of Group I (a), claims 1-8, in the reply filed on 9/9/04 is acknowledged. The traversal is on the ground(s) that because the Inventions of Groups I (a)-(e) and Groups II (a)-(d) share the same class and subclass, there would be no undue burden placed upon the examiner to examine the claims of Groups I and II, claims 1-32 and 53-55. This is not found persuasive because the Inventions of Groups II (a)-(d) are drawn to a library of two or more engineered microparticles that are so structurally different as "to cause a discernible difference in a dielectric response of each microparticle to an applied electric field", and so have a different mode of operation, function, and effect from the engineered microparticle, which is "fabricated to be dielectrically-dispersive", as in the Inventions of Groups I (a)-(e). The examiner respectfully submits it would be an undue administrative burden to examine the Inventions of Groups I (a)-(e) and Groups II (a)-(d) together because the Inventions are independent for the aforementioned reasons. Because the Inventions of Groups I (a)-(e) and the Inventions of Groups II (a)-(d) are independent inventions, it is not necessarily that the inventions of said groups be classed in different classes and subclasses. The MPEP states:

Art Unit: 1639

Where there is no disclosure of relationship between species (see MPEP § 806.04(b)), they are independent inventions and election of one invention following a requirement for restriction is mandatory even though applicant disagrees with the examiner. There must be a patentable difference between the species as claimed. See MPEP § 806.04(h). *Since the claims are directed to independent inventions, restriction is proper pursuant to 35 U.S.C. 121, and it is not necessary to show a separate status in the art or separate classification.* [Emphasis added].

MPEP at 808.01(a). Therefore, the examiner respectfully submits that restrictions between the Inventions of Groups I (a)-(e) and the Inventions of Groups II (a)-(d) is proper.

#### ***Election/Restrictions***

4. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-12 and 53-55, drawn to an engineered microparticle fabricated to be dielectrically-dispersive and adapted to produce a dielectric response to an applied electric field such that the microparticle is maneuverable by dielectrophoresis, classifiable in class 424, subclass 1.29.
  - II. Claims 13-32, drawn to two or more engineered microparticles, each microparticle comprising a dielectrically-dispersive material differing to an extent sufficient to cause a discernible difference in a dielectric response of each microparticle to an applied electric field, classifiable in class 424, subclass 1.29.
  - III. Claims 33-52, drawn to methods for forming a library of two or more engineered microparticles, comprising: forming a first engineered microparticle using a first dielectrically-dispersive material; and forming a

Art Unit: 1639

second engineered microparticle using a second dielectrically-dispersive material, classifiable in class 435, subclass 4.

- IV. Claims 56-59, drawn to methods for controlling the aggregation of microparticles, comprising modulating the surface charge of one or more microparticles, classified in class 435, subclass 7.1.
- V. Claim 60, drawn to methods for identifying one or more complexes within a sample comprising engineered microparticles having streptavidin and different dielectric properties, classifiable in class 435, subclass 7.5.

The inventions are distinct, each from the other because of the following reasons:

5. Inventions of Group I and the Inventions of Group II and Group III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions the libraries of two or more engineered microparticles and the methods for forming said libraries are not disclosed as capable of use with an engineered microparticle and have different functions as the engineered microparticle of Group I are engineered to be dielectrically dispersive, which is a different mode of operation, function and effect from the Invention of Group II, drawn to a library of microparticles fabricated to be dielectrically different from each other.

6. Inventions Group III and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product

Art Unit: 1639

or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the library of Group II may be produced by forming a second engineered microparticle using a second dielectrically-dispersive material that is completely different from a first dielectrically-dispersive material used to form a first engineered microparticle, unlike the method of making a library of microparticles of Group III.

7. Inventions of Group I, Group II, and the Inventions of Groups IV and V are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the microparticles and libraries thereof can be used for labeling a sample, which is a different process of using from controlling aggregation of microparticles, or identifying microparticle-associated streptavidin biotin complexes.

8. Inventions of Group III, IV and V are unrelated, each from the other. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different effects, because the effect of the Invention of Group IV is controlling the aggregation of microparticles, which is different from the effect of identifying one or more complexes within a sample comprising engineered microparticles, as in the

Art Unit: 1639

Invention of Group V; and is different from the method of forming a library of two or more dielectrically different microparticles, as in the Invention of Group III.

9. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for each of the Groups is not required for each of the other Groups, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

#### ***Election/Species***

10. This application contains claims directed to the following patentably distinct species of the claimed invention: A microparticle that comprises: a dielectrically-dispersive core; streptavidin and biotinylated probes; a dipolar material; a doping agent; a fluorescent label; a ganglioside; and a vesicle.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 1 is generic.

11. This application contains claims directed to the following patentably distinct species of the claimed invention: A library of two or more microparticles each

comprising: a dielectrically-dispersive material comprises one or more layers of one or more materials; a dielectrically-dispersive core; a self-assembled monolayer; streptavidin and biotinylated probes; a fluorescent label; a ganglioside; one or more vesicles; dielectrically-dispersive materials that differ with respect to chain length; dielectrically-dispersive materials that differ with respect to a doping agent; dielectrically-dispersive materials that differ with respect to manufacture; dielectrically-dispersive materials that differ with respect to composition; dielectrically-dispersive materials that differ with respect to surface charge; dielectrically-dispersive materials that differ with respect to a side chain; dielectrically-dispersive materials that differ with respect to mobility of charge carriers; dielectrically-dispersive materials that differ with respect to viscosity.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 13 is generic.

12. This application contains claims directed to the following patentably distinct species of the claimed invention: A method for forming a library of two or more microparticles each comprising: a dielectrically-dispersive material comprises one or more layers of one or more materials; a dielectrically-dispersive core; a self-assembled monolayer; streptavidin and biotinylated probes; a fluorescent label; a ganglioside; one or more vesicles; modifying an encapsulation material; modifying a chain length; modifying a doping agent; modifying a method of manufacture; modifying a composition;



Art Unit: 1639

modifying a surface charge; modifying a side chain; modifying a mobility of charge carriers; and modifying a viscosity.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claim 33 is generic.

13. If applicant elects the species of gangliosides, as provided in above paragraphs 10, 11 or 12, applicant must further elect a single subspecies of ganglioside: A ganglioside that is: a GM1 ganglioside or a GD1a ganglioside.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1, 10, 20, 40, 53 and 56 are generic.

14. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

Art Unit: 1639

are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

15. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

16. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark L. Shibuya whose telephone number is (571) 272-0806. The examiner can normally be reached on M-F, 8:30AM-5:00PM.

Art Unit: 1639

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark L. Shibuya  
Examiner  
Art Unit 1639

  
PADMASHRI PONNALURI  
PRIMARY EXAMINER

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